



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/993,623	11/27/2001	Tomoki Takahashi	Q67303	8239

7590

04/10/2002

SUGHRUE, MION, ZINN, MACPEAK & SEAS
2100 Pennsylvania Avenue, N.W.
Washington, DC 20037

EXAMINER

NGUYEN, HANH N

ART UNIT

PAPER NUMBER

2834

DATE MAILED: 04/10/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/993,623

Applicant(s)

TAKAHASHI ET AL.

Examiner

HANH NGUYEN

Art Unit

2834

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 November 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Drawings

Figures 20-23 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: (35) in Col. 7, line 7. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

The disclosure is objected to because of the following informalities: "and a small size" in line 16, Col. 3, it is not clear what has a small size.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 2834

3. Claims 1-3, 5-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over the applicant's admitted prior art in view of Csaki and further in view of Fiorenza et al.

Regarding claim 1, the applicant's admitted prior art show an alternator comprising: a case; a shaft passing through said case; a rotor secured to said shaft, said rotor including a rotor coil for generating a magnetic flux on passage of an electric current therethrough, and a plurality of claw-shaped magnetic poles extending in an axial direction and covering said rotor coil, said claw-shaped magnetic poles being magnetized into North-seeking (N) and South-seeking (S) poles by said magnetic flux; a stator including a stator core provided with a plurality of slots formed so as to extend axially and be spaced circumferentially, and a stator winding mounted to said stator core; slip rings secured to said shaft; brushes the end of which slide on the slip rings supplying electric current to said rotor coil through said slip rings from an electric power supply, a brush holding assembly which said shaft passes through.

The applicant's admitted prior art fails to show said brush holding assembly holding said brushes within a holding portion and provided with a cover capable of being opened to remove said brushes; and a cap for closing an open portion for removal and insertion of said brushes, said open portion being formed at a position on said case facing said cover.

However, Csaki discloses an electrical rotary machine provided with said brush holding assembly holding said brushes (14) within a holding portion (15 in Fig. 1) and provided with a cover capable of being opened to remove said brushes and an open end facing the cover for the purpose of replacing the brushes when they are worn off.

Art Unit: 2834

Moreover, Fiorenza et al. disclose a motor provided with a cap (130 in Fig. 4) for closing an open portion for removal and insertion of said brushes for the purpose of closing the housing.

Since the applicant's admitted prior art, Csaki and Fiorenza et al. are in the same field of endeavor, the purpose disclosed by Csake and Fioreza et al. would have been recognized in the pertinent art of the applicant's admitted prior art

It would have been obvious at the time the invention was made to a person having an ordinary skill in the art to modify the applicant's admitted prior art by making an open portion accessible to the brush cover capable of being opened to remove said brushes, providing the cap to cover the open portion by as taught by Csaki and Fiorenza et al. for the purpose of replacing the brushes when they are worn off.

Regarding claim 2, Csaki also discloses the motor wherein said brush holding assembly extends to a vicinity of said open portion (Fig. 1).

Regarding claim 3, the applicant's admitted prior art also show the alternator wherein a regulator (13 in Fig. 18 of the applicant 's disclosure) for adjusting the magnitude of an alternating voltage generated in said stator and a cooling plate (14) placed in contact with said regulator are disposed on said brush holding assembly so as to overlap each other on the non-rotor side of said brush holding assembly.

Regarding claim 4, the applicant's admitted prior art also show the alternator wherein a partition wall (the portion of bracket 2 facing the regulator and the cooling plate of Fig. 18) for making the cooling air passing through said cooling plate take a circuitous route toward said brushes is provided.

Art Unit: 2834

Regarding claim 6, the alternator disclosed by the applicant's admitted prior art, modified by Csaki to have an opening portion facing the cover of the brushes, modified by Fiorenza et al. by providing a cap to cover the opening portion would have a partition wall to be integral with said cap.

Regarding claim 7, the applicant's admitted prior art also show the alternator wherein a cooling fan (5b in Fig. 20 of the applicant's disclosure) to generate forced convection in said case is provided between said rotor and said brush holding assembly.

4. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over the applicant's admitted prior art in view of Csaki and Fiorenza et al. and further in view of Kashihara et al.

Regarding claim 4, the alternator disclosed by the applicant's admitted prior art, modified by Csaki and Fiorenza et al. show all limitations of the claimed invention except showing an alternator wherein said cooling plate is provided with plural cooling fins extending in a radial direction of said rotor.

However, Kashihara et al. discloses an alternator comprised the heat sink (17) provided with plural cooling fins extending in a radial direction of said rotor (Col. 5, lines 62-67 and Fig. 6) for the purpose of improving cooling.

Since the applicant's admitted prior art, Csaki, Fiorenza et al. and Kashihara et al. are in the same field of endeavor, the purpose disclosed by Kashihara et al. would have been recognized in the pertinent art of the applicant's admitted prior art, Csaki and Fiorenza et al.

Art Unit: 2834

It would have been obvious at the time the invention was made to a person having an ordinary skill in the art to modify the applicant's admitted prior art, Csaki and Fiorenza et al. by providing plural cooling fins to the heat sink as taught by Kashihara et al. for the purpose of improving cooling.

5. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over the applicant's admitted prior art in view of Csaki and Fiorenza et al. and further in view of Umeda et al.

Regarding claim 8, the alternator disclosed by the applicant's admitted prior art, modified by Csaki and Fiorenza et al. show all limitations of the claimed invention except showing the alternator wherein a conducting wire of said stator winding extends outwards in an axial direction from an end surface of said stator core and is formed into coil ends having a uniform shape in a circumferential direction.

However, Umeda et al. discloses an alternator wherein a conducting wire of said stator wherein a conducting wire of said stator winding extends outwards in an axial direction from an end surface of said stator core and is formed into coil ends having a uniform shape in a circumferential direction for the purpose of improving cooling (Fig. 10).

Since the applicant's admitted prior art, Csaki, Fiorenza et al. and Umeda et al. are in the same field of endeavor, the purpose disclosed by Umeda et al. would have been recognized in the pertinent art of the applicant's admitted prior art, Csaki and Fiorenza et al.

Art Unit: 2834

It would have been obvious at the time the invention was made to a person having an ordinary skill in the art to modify the applicant's admitted prior art, Csaki and Fiorenza et al. by forming a stator with winding extends outwards in an axial direction from an end surface of said stator core and is formed into coil ends having a uniform shape in a circumferential direction as taught by Umeda et al. for the purpose of improving cooling.

Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hanh N Nguyen whose telephone number is (703) 305-3466. The examiner can normally be reached on Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nestor Ramirez can be reached on (703) 308-1371. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-3431 for regular communications and (703) 305-3431 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1782.

HNN

April 4, 2002


NESTOR RAMIREZ
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800